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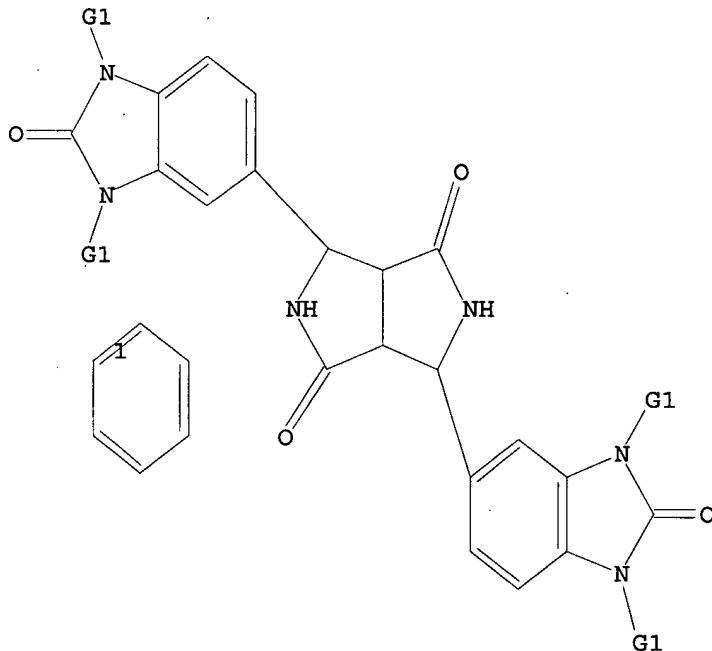
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L3 4 S L1 FULL

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L4 1 S L3

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L1 STR



G1 Ak, [@1]

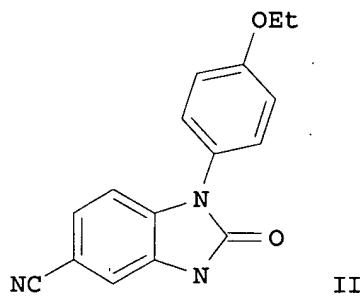
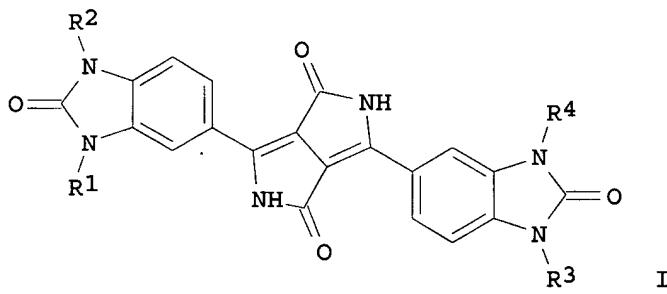
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L3 4 SEA FILE=REGISTRY SSS FUL L1
L4 1 SEA FILE=CAPLUS ABB=ON PLU=ON L3

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L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:57283 CAPLUS
 DN 140:112811
 TI New diketopyrrolopyrrole pigments
 IN Grimm, Felix W.; Metz, Hans Joachim; Weber, Joachim; Wacker, Andreas
 PA Clariant G.m.b.H., Germany
 SO Ger. Offen., 15 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10231105	A1	20040122	DE 2002-10231105	20020710
	WO 2004007500	A1	20040122	WO 2003-EP5968	20030606
	WO 2004007500	C1	20050324		
				W: CN, JP, KR, US RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR EP 1521755 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK	
PRAI	DE 2002-10231105	A	20020710		
	WO 2003-EP5968	W	20030606		
OS	MARPAT 140:112811				
GI					



AB The title compds. [I; R1, R2, R3 and R4 = C1-4 alkyl or Ph-group, optionally substituted with 1, 2, 3 or 4 substituents, selected from the group: C1-4 alkyl, C1-4 alkoxy, CN, halogen, NO₂, CF₃, SR₅ (R₅ = C1-4 alkyl), Ph or C1-2 alkylenephenyl], useful as pigments for polymers, are prepared by reaction of succinic acid diester with nitriles at high temperature in an organic solvent in the presence of a strong base, followed by hydrolysis. As an example, mixing 58.6 parts of nitrile (II) with 30.4 parts of succinic acid diisopropyl diester in sodium tert-amylate/tert-amyl alc. 4h

at 100° with subsequent hydrolysis in mixture of H₂O and MeOH gives 36.6 parts orange pigment, which is useful for coloring PVC, polyurethane and polyacrylic coatings with high color strength and saturation

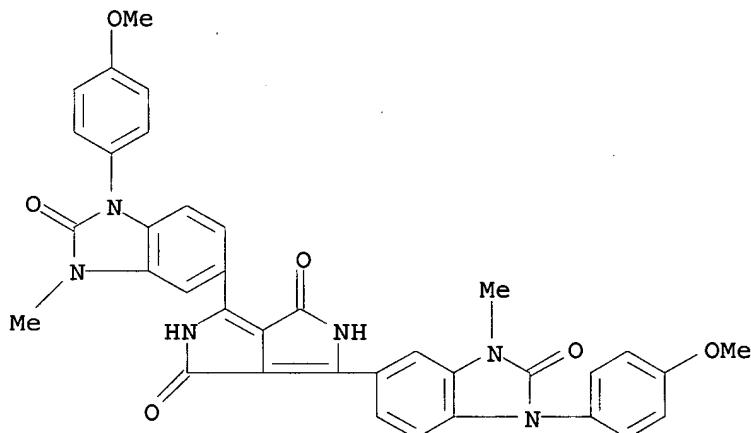
IT 646516-17-8P 646516-18-9P 646516-20-3P

646516-21-4P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manufacture diketopyrrolopyrrole pigments from succinic acid diesters and nitriles for synthetic resins, printing inks, paints, toners and color optical filters)

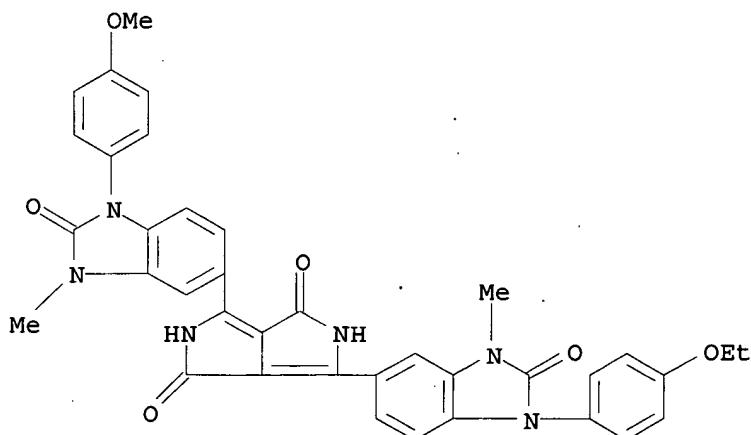
RN 646516-17-8 CAPPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[2,3-dihydro-1-(4-methoxyphenyl)-3-methyl-2-oxo-1H-benzimidazol-5-yl]-2,5-dihydro- (9CI) (CA INDEX NAME)



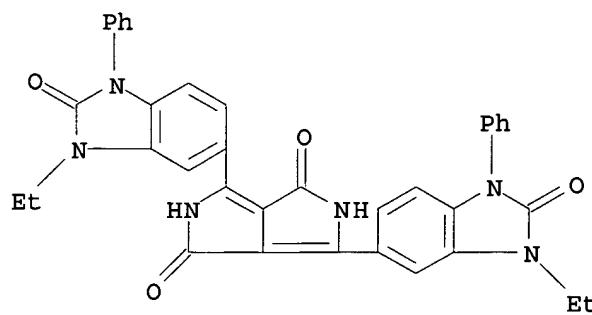
RN 646516-18-9 CAPPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-[2,3-dihydro-1-(4-methoxyphenyl)-3-methyl-2-oxo-1H-benzimidazol-5-yl]-6-[1-(4-ethoxyphenyl)-2,3-dihydro-3-methyl-2-oxo-1H-benzimidazol-5-yl]-2,5-dihydro- (9CI) (CA INDEX NAME)



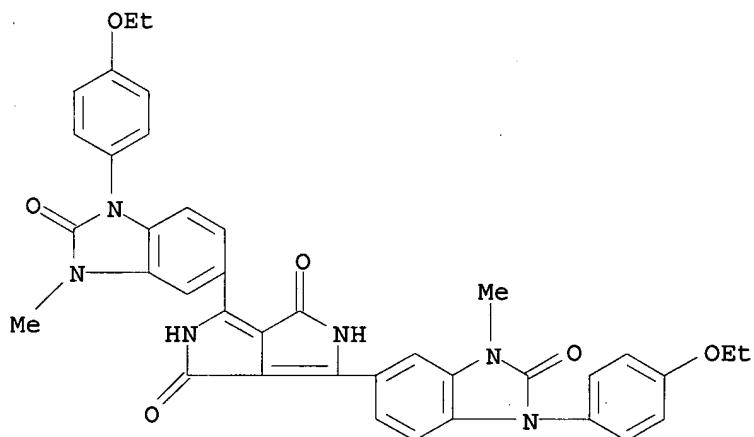
RN 646516-20-3 CAPPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(3-ethyl-2,3-dihydro-2-oxo-1-phenyl-1H-benzimidazol-5-yl)-2,5-dihydro- (9CI) (CA INDEX NAME)



RN 646516-21-4 CAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[1-(4-ethoxyphenyl)-2,3-dihydro-3-methyl-2-oxo-1H-benzimidazol-5-yl]-2,5-dihydro- (9CI) (CA INDEX NAME)



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(FILE 'HOME' ENTERED AT 16:40:11 ON 17 AUG 2005)

FILE 'REGISTRY' ENTERED AT 16:41:23 ON 17 AUG 2005
L1 STRUCTURE uploaded

L2 0 S L1

L3 4 S L1 FULL

FILE 'CAPLUS' ENTERED AT 16:42:10 ON 17 AUG 2005

L4 1 S L3

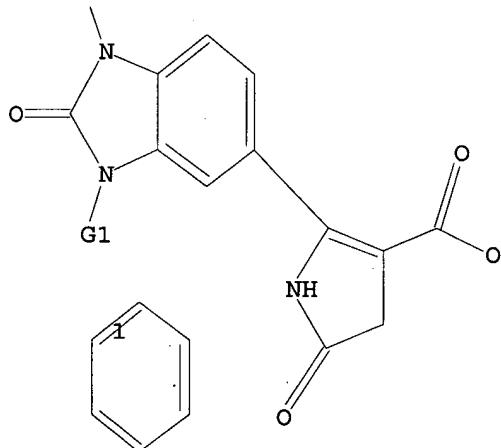
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L6 0 S L5

L7 0 S L5 FULL

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L5 STR



G1 Ak,[@1]

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100.0% PROCESSED 2 ITERATIONS
SEARCH TIME: 00.00.01

0 ANSWERS

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L3 4 S L1 FULL

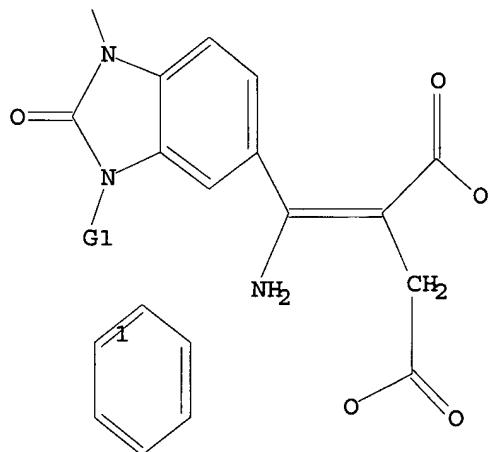
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L4 1 S L3

FILE 'REGISTRY' ENTERED AT 16:43:13 ON 17 AUG 2005
L5 STRUCTURE uploaded

L6 0 S L5
 L7 0 S L5 FULL
 L8 STRUCTURE UPLOADED
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 L10 0 S L8 FULL

=> d que l10 stat
 L8 STR



G1 Ak, [@1]

Structure attributes must be viewed using STN Express query preparation.
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100.0% PROCESSED 0 ITERATIONS 0 ANSWERS
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FILE 'REGISTRY' ENTERED AT 16:41:23 ON 17 AUG 2005

L1 STRUCTURE UPLOADED
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FILE 'CAPLUS' ENTERED AT 16:42:10 ON 17 AUG 2005

L4 1 SEA ABB=ON PLU=ON L3
 D QUE L1
 D QUE L4 STAT
 D BIB ABS HITSTR

FILE 'REGISTRY' ENTERED AT 16:43:13 ON 17 AUG 2005

L5 STRUCTURE UPLOADED
 D
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 L7 0 SEA SSS FUL L5
 D QUE L7 STAT
 L8 STRUCTURE UPLOADED
 D
 L9 0 SEA SSS SAM L8
 L10 0 SEA SSS FUL L8

D QUE L10 STAT

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 16 AUG 2005 HIGHEST RN 860495-66-5
DICTIONARY FILE UPDATES: 16 AUG 2005 HIGHEST RN 860495-66-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

FILE CAPLUS

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FILE COVERS 1907 - 17 Aug 2005 VOL 143 ISS 8
FILE LAST UPDATED: 16 Aug 2005 (20050816/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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(FILE 'HOME' ENTERED AT 16:45:48 ON 17 AUG 2005)

FILE 'CAPLUS' ENTERED AT 16:45:57 ON 17 AUG 2005
E GRIMM FELIX/AU

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E METZ HANS/AU
L2 49 S E5
E WEBER JOACHIM/AU
L3 105 S E3
E WACKER ANDREAS/AU
L4 24 S E3
L5 179 S L1 OR L2 OR L3 OR L4
L6 6 S L5 AND DIKETOPYRROLOPYRROLE

=> d que 16 stat

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FELIX W"/AU OR "GRIMM FELIX WENDELIN"/AU)
L2 49 SEA FILE=CAPLUS ABB=ON PLU=ON "METZ HANS JOACHIM"/AU
L3 105 SEA FILE=CAPLUS ABB=ON PLU=ON "WEBER JOACHIM"/AU
L4 24 SEA FILE=CAPLUS ABB=ON PLU=ON "WACKER ANDREAS"/AU
L5 179 SEA FILE=CAPLUS ABB=ON PLU=ON L1 OR L2 OR L3 OR L4
L6 6 SEA FILE=CAPLUS ABB=ON PLU=ON L5 AND DIKETOPYRROLOPYRROLE

=> d 1-6 bib abs

L6 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:934441 CAPLUS
 DN 141:381105
 TI Easily dispersible pigments.
 IN Osterod, Frank; Plueg, Carsten; Metz, Hans-Joachim
 PA Clariant G.m.b.H., Germany
 SO PCT Int. Appl., 20 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004094540	A1	20041104	WO 2004-EP3760	20040408
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	DE 10318235	A1	20041111	DE 2003-10318235	20030422
	DE 2003-10318235	A	20030422		

AB A method for dyeing non-aqueous solvent-containing coating materials (such as alkyd-melamine and acrylate-melamine paints and/or polyester lacquer used in one- or two-component paints or printing inks) is based on using coated with amino-group-containing (meth)acrylate (having mol. weight 2,000 - 100,000 and NH₂ no 20-70 mg KOH/g) fine-dispersed organic pigment. Thus, mixing a suspension of 364 g of Pigment Violet 23 (C.I. 51319) in 2,500 g water 1 h, adding 156 g of Bu methacrylate-vinylimidazole copolymer (having NH₂ no 30 mg KOH/g and mol. weight 31,000), mixing 1 h in a static mixer and drying at 60° gave 452 g of an easily dispersible pigment used for dyeing alkyl-melamine paint.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:117181 CAPLUS

DN 140:165502

TI Compositions based on **diketopyrrolopyrrole** pigments, their production and their use with partially crystalline plastics

IN Weber, Joachim; Hundsdorf, Thomas; Ganschow, Matthias

PA Clariant GmbH, Germany

SO Ger. Offen., 12 pp.

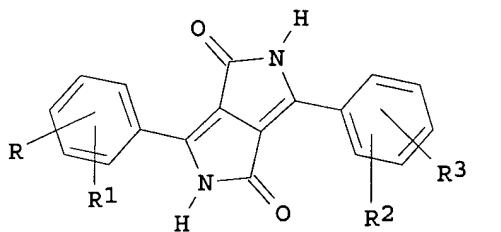
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10235573 WO 2004018566	A1 A1	20040212 20040304	DE 2002-10235573 WO 2003-EP7025	20020803 20030702
	W: CN, JP, KR, US RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	EP 1529082	A1	20050511	EP 2003-792169	20030702
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
PRAI	DE 2002-10235573 WO 2003-EP7025	A W	20020803 20030702		
OS	MARPAT 140:165502				
GI					



AB The invention concerns pigment compns. having at least one diarylpyrrolopyrrole dione pigment (I; R, R1, R2, R3 = H, CN, Ph, C1-4-alkyl, C1-4-alkoxy) and at least one pigment dispersant in the form of a sulfonated I derivative. Such compns. are useful for uniform, defect-free mass coloration of plastics such as polyolefins. In an example, a mixture of C.I. Pigment Red 254, water, tert-amyl alc., and a dispersant (a diphenylpyrrolopyrrole dione with 3 dioctylaminosulfonyl groups) was processed into a press cake and used to color polyethylene which could be injection molded.

L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 2004:57283 CAPLUS

DN 140:112811

TI New diketopyrrolopyrrole pigments

IN Grimm, Felix W.; Metz, Hans Joachim; Weber,
 Joachim; Wacker, Andreas

PA Clariant G.m.b.H., Germany

SO Ger. Offen., 15 pp.

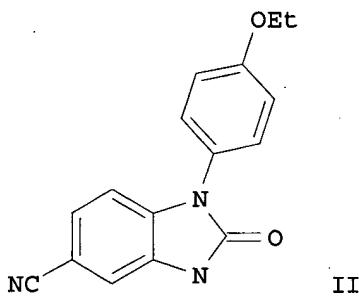
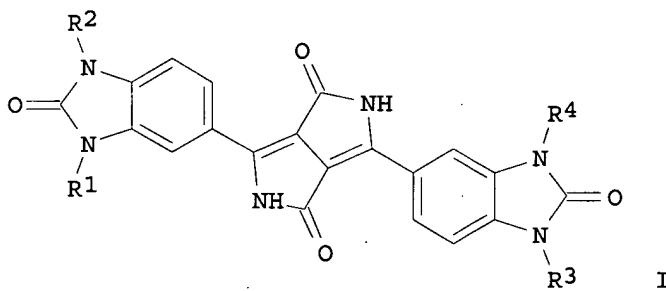
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10231105	A1	20040122	DE 2002-10231105	20020710
	WO 2004007500	A1	20040122	WO 2003-EP5968	20030606
	WO 2004007500	C1	20050324		
	W: CN, JP, KR, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
	EP 1521755	A1	20050413	EP 2003-735569	20030606
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
PRAI	DE 2002-10231105	A	20020710		
	WO 2003-EP5968	W	20030606		
OS	MARPAT 140:112811				
GI					



AB The title compds. [I; R1, R2, R3 and R4 = C1-4 alkyl or Ph-group, optionally substituted with 1, 2, 3 or 4 substituents, selected from the group: C1-4 alkyl, C1-4 alkoxy, CN, halogen, NO₂, CF₃, SR5 (R5 = C1-4 alkyl), Ph or C1-2 alkylenephenyl], useful as pigments for polymers, are prepared by reaction of succinic acid diester with nitriles at high temperature in

an organic solvent in the presence of a strong base, followed by hydrolysis. As an example, mixing 58.6 parts of nitrile (II) with 30.4 parts of

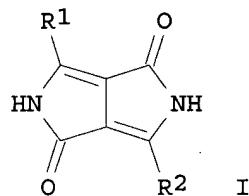
succinic acid diisopropyl diester in sodium tert-amylate/tert-amyl alc. 4h at 100° with subsequent hydrolysis in mixture of H₂O and MeOH gives 36.6 parts orange pigment, which is useful for coloring PVC, polyurethane and polyacrylic coatings with high color strength and saturation

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:900167 CAPLUS
 DN 136:38845
 TI Production of **diketopyrrolopyrrole** pigments in microreactors
 IN Nickel, Uwe; Unverdorben, Leonhard; Weber, Joachim; Dietz,
 Erwin; Patzlaff, Juergen
 PA Clariant International Ltd., Switz.
 SO Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW

DT Patent
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1162240	A2	20011212	EP 2001-112682	20010525
	EP 1162240	A3	20031126		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 10028104	A1	20011213	DE 2000-10028104	20000607
	JP 2002012788	A2	20020115	JP 2001-162426	20010530
	US 2002010331	A1	20020124	US 2001-874689	20010605
	US 6566519	B2	20030520		
	CN 1328091	A	20011226	CN 2001-121460	20010607
	US 2003158410	A1	20030821	US 2003-383025	20030306
	US 6723138	B2	20040420		
PRAI DE 2000-10028104	A	20000607			
US 2001-874689	A1	20010605			
OS CASREACT 136:38845; MARPAT 136:38845					
GI					



AB **Diketopyrrolopyrrole** pigments (I; R1, R2 = aryl) are produced from aromatic nitriles and succinate diesters in microreactors in a process which is easily controlled and can be readily scaled up. In an example, C.I. Pigment Red 254 was obtained from a feed (40 mL/min) of Na tert-amylate in tert-amyl alc. and a feed (20 mL/min) of p-chlorobenzonitrile and diiso-Pr succinate in tert-amyl alc.

L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 2001:416515 CAPLUS

DN 135:20892

TI Pigment dispersants based on **diketopyrrolopyrrole** compounds,
 their production and their use

IN Weber, Joachim; Grimm, Felix Wendelin; Dietz, Erwin

PA Clariant GmbH, Germany

SO Eur. Pat. Appl., 24 pp.

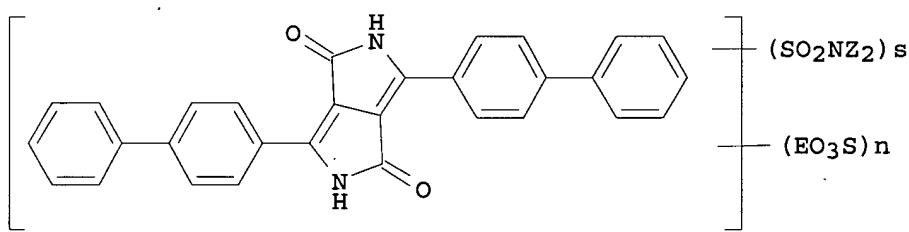
CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

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	DE 19958181	A1	20010607	DE 1999-19958181	19991202
	JP 2001214085	A2	20010807	JP 2000-362974	20001129
	US 2001008912	A1	20010719	US 2000-727960	20001201
	US 2003162976	A1	20030828	US 2003-375573	20030227
	US 2003162977	A1	20030828	US 2003-375668	20030227
	US 2004177790	A1	20040916	US 2004-807634	20040324
PRAI	DE 1999-19958181	A	19991202		
	US 2000-727960	B1	20001201		
	US 2003-375573	A3	20030227		
OS	MARPAT 135:20892				
GI					



I

AB Pyrrolopyrroledione sulfo derivs. (I; E = H, metal, ammonium; Z = organic group; n = 0-2; s = 0.1-4.0) are obtained for use as dispersants for **diketopyrrolopyrrole** pigments, enabling facilitated dispersion of the pigments in coatings and plastics. I are prepared by chlorosulfonating the **diketopyrrolopyrrole** and then condensing with the desired amine. In an example, 1,4-diketo-3,6-bis(4-biphenyl)pyrrolo[3,4-c]pyrrole was treated with chlorosulfonic acid and thionyl chloride to give a chlorosulfonated product, which was then condensed with 3-(dimethylamino)-1-propylamine to give a dispersant. This dispersant was used with C.I. Pigment Red 264 in the production of a coating,.

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 2000:592418 CAPLUS

DN 133:194724

TI Pigment preparations based on **diketopyrrolopyrrole** pigments with basic perylene dispersing agents

IN Weber, Joachim; Dietz, Erwin
 PA Clariant G.m.b.H., Germany

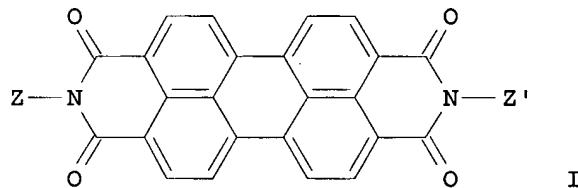
SO Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	EP 1029899	A3	20021016		
	EP 1029899	B1	20050518		
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	KR 2000058069	A	20000925	KR 2000-7359	20000216
	JP 2000290523	A2	20001017	JP 2000-37762	20000216
	US 6409816	B1	20020625	US 2000-505364	20000216
PRAI	DE 1999-19906494	A	19990217		
OS	MARPAT 133:194724				
GI					



AB Pigment prepns. containing a **diketopyrrolopyrrole** pigment and a perylenetetracarboxylic diimide I [Z = XNR1R2; Z1 = XNR1R2, H, OH, amino, (un)substituted C1-20 alkyl or Ph; R1, R2 = H, (un)substituted C1-20 alkyl or C2-20 alkenyl, or NR1R2 = heterocyclyl; X = C2-6 alkylene, (un)substituted C5-7 cycloalkylene] as pigment dispersing agent, optionally together with a surfactant and other conventional additives, have advantageous rheol. and coloristic properties. Thus, a mixture of 20 parts C.I. Pigment Red 264 and 1 part I (Z = 2-piperazinoethyl, Z1 = Me) incorporated in a high-solids acrylic stoving lacquer gave a metallic coating with 20° gloss (ASTM D 523) 70.